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Chapter 6

Teachers' Beliefs about Teaching Mathematics to Students from Socially Disadvantaged Backgrounds: Implications for Social Justice

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INTRODUCTION

Within the mathematics education literature, there is a substantive body of research into teachers' beliefs. A considerable amount of this literature explores what teachers believe about different aspects of mathematics and mathematics education. This literature consists of projects such as the beliefs teachers hold about teaching and learning (Prawat 1993), preservice teachers' beliefs about various aspects of mathematics education (Raymond 1997; Vacc and Bright 1999; Verschaffel, de Corte, and Borghart 1997), and the mismatch between beliefs and actual practice (Perry, Howard, and Tracey 1999). These themes are recurring ones in the literature on teacher beliefs and focus primarily on aspects of teaching and learning mathematics without considering implications.

In contrast, and not always related to mathematics education, a further component of the literature on teacher beliefs explores the interaction between beliefs and the outcomes for students. For example, in their seminal study, Rosenthal and Jacobson (1969) demonstrated the power of teacher beliefs in bringing about particular outcomes in the classroom. In their study, students were randomly assigned to groupings that were labeled as if representing the ability of the students. The authors noted that as a consequence of the teachers believing that the students in any one group were of a particular ability, they interacted with the students and held very different expectations of the students. Subsequently, these qualitatively different experiences for the students produced results confirming the random groupings rather than the true abilities of the students being identified. This powerful study alerted educators to the importance of teachers' beliefs about students' perceived abilities and how such perceptions can become self-fulfilling prophecies.

reported in this chapter extends this work to encompass teachers' beliefs about the mathematical learning of students from socially disadvantaged backgrounds. As the data used in this chapter demonstrate, this individualistic viewpoint is framed predominantly within deficit models.

THE PROJECT

The following sections discuss mathematics teachers' beliefs about students from socially disadvantaged backgrounds and the relationship between socio-economic background and school mathematics. Using survey and interview data collection methods, teachers from 15 schools participated in the study to examine their beliefs about teaching and learning in mathematics when that learning is focused on students from socially disadvantaged backgrounds. A total of 50 teachers participated in the survey, of which 20 volunteered to participate in one-on-one interviews. Schools from the South-East Queensland region of Australia participated in the study. Schools were selected on the basis of their being part of a national project (The Disadvantaged Schools Project), which is a federally funded program aimed at supporting students from socially and economically disadvantaged backgrounds. Strict guidelines have been established by the relevant funding authorities as to which schools are eligible for funding so that those schools in receipt of government funding can be assumed to have significant numbers of students who are classified as socially and economically disadvantaged. Fifteen schools were represented in the survey and 9 in the interviews.

The questions posed in the survey and interview specifically targeted the teaching of mathematics to students from socially disadvantaged backgrounds. Specifically, teachers were asked about the challenges, dilemmas, and pleasures of working with this cohort of students. The teachers had been working with this cohort of students for varying lengths of time. Some were novices with less than 3 years of experience, while others had more than 15 years of experience. However, regardless of years of experience, level of schooling (primary or secondary), gender of teacher, or the school in which they taught, all teachers but one held very similar views of teaching in these schools and these students.

Extreme stereotypical views of socially disadvantaged families were not common in the responses offered by the teachers. However, there were hints as to how some of the teachers viewed the issue of social reproduction. For example, the comment offered by Margaret (below) suggested that the cycle of poverty and social class was inextricably bound to lives of crime and that the school could have some, albeit minor, role in breaking this cycle by intervening early in the lives of the children from these families:

Margaret: Children who don't succeed or who are expelled or whatever and then they go to jail and we are spending thousands and millions on these people. If you got them

right at the beginning, you wouldn't wipe everything out, but you could wipe a fair bit of it out and you would be able to do something.

While this view is extreme in its links with incarceration, it suggests that some teachers hold very moralistic views of social class and how students from the working class and/or poverty are circumscribed with many other attributes. In other words, the teacher's habitus provided a particular way of viewing families from socially disadvantaged backgrounds. Comments passed by the teachers referred to other aspects of the students' lives including stereotypical views of single-parent (to be read as mother) families; excessive violence in the homes; attitudes of not caring about their children; children being poorly fed or neglected. Sometimes riders were added to their comments whereby they recognized that the perceived plight of the students was also found in more affluent settings:

Megan: These kids have very sad lives. I mean, how can they cope with maths or any other subject when they are not fed properly or they know that when they get home their manic-depressive father is waiting to belt them up? This might happen in middle-class families, but not like it happens here. It is just a daily event, whereas in nice areas this is not the norm.

Evident in many of the comments, such as the one above, are value-laden words such as *nice* or *good* being used to describe the children and families from middle-class backgrounds, whereas negatively laden words were used to describe the students and families from working-class backgrounds. A common framework used to describe the life circumstances of the students was that of Maslow's hierarchy of needs. Teachers often framed their perceptions of the families within this legitimated model, tending to describe families as being deficit in their provision of the basic needs of the students. Families from working-class backgrounds were described as not meeting the basic needs of their children, whereas this was not attributed to more affluent and middle-class families.

DEFICIT MODELS OF EXPLAINING DIFFERENCE

Common to most of the comments offered by the teachers were deficit views of education and student performance. Students and their families were typically described in terms of lacking particular attributes or dispositions. Teachers would describe their observations of the students in terms of lacking some innate qualities or experiences that hindered their capacity to undertake mathematics. This view has been well documented in other studies (Connell, White, and Johnston 1991; Daniels and Lee 1989). Typical of these comments is that of Barbara (below) who is quite open in her belief that the students from socially

culture. As such, particular cultural practices will position some students better than others in terms of learning and achieving in mathematics. This Bourdieu refers to as cultural capital—differential acknowledgment of cultural background in exchange for academic rewards. Through his detailed work on patterns of consumption and society, Bourdieu (1979b) shows the different preferences of social classes in their patterns of consumption and dispositions. One of the key aspects of cultural capital is linguistic capital since particular forms of language are recognized and legitimated in and through school mathematics (Zevenbergen 2001). Here, the language that the student brings to school is important, and this aspect of schooling and mathematics has been well documented (Cooper and Dunne 1999).

In considering the construct of cultural capital, the different experiences of students position them differently in relation to the practices within school. Those students for whom there is a greater synergy between the cultural practices of the school and home have a greater chance of educational success, with the inverse also being the case. Paul notes this when he makes the following comments regarding the experiences of students:

Paul: Poor children often do not have a chance to deal with distance in mathematics. Thirty kilometers means nothing to some children who have never left the area. Never traveled to Sydney, for instance. One girl in our class has just come back from Europe, and there are others who have never been to Brisbane or the Gold Coast. Now, you are looking at a map and you are trying to explain concepts of a thousand kilometers, and it means nothing. Whereas children in the same group. [*Pause*] It might well be affluence or it might be priorities.

In this context, Paul recognizes that the experiences of the students will offer greater or lesser opportunities for success in mathematics. Hence, these out-of-school experiences can be forms of capital that may enhance the success of students. Some teachers recognized that the impoverished experiences of the socially disadvantaged students engendered a greater risk of failure since they were not aware of the contexts or knowledge being presented.

Cultural capital also refers to the dispositions that are developed toward schooling as embodied in the habitus. Studies have shown that many families can have very different dispositions toward schooling, depending on the experiences of the previous generations. In their well-cited studies of schooling, authors (Connell et al. 1982; Willis 1977) have shown that families from different social classes value schooling differently. Such orientations have been developed through the familial and personal experiences of schooling. Often parents from working-class families have been excluded from the schooling process—either overtly or covertly—so that school becomes an alien experience and is hence at risk of being rejected as a valued or useful part of their lives. Most of the teachers in this study offered similar views of educational reproduction. However, the converse can also be true where some parents also rec-

ognize education to be a path out of the poverty trap. The communities within which the students grew up were seen to provide very particular views of the world that inhibited their capacity to learn and relate to schooling. In the comments below, the teachers claim that the families and peers provided experiences that facilitated the construction of a legitimate negative attitude toward school mathematics. The strong comment offered by Peter in the second comment listed below where he claims that their parents were "dropouts themselves" suggests that he has particular views of the parents' educational backgrounds and their orientation to school.

Naomi: I think their belief that they can't do this mathematics stuff comes from a variety of places. I really do. I think it comes from home, other people around them like their peers, and from the general community they are from.

Peter: The students come from families that really don't care about school. Most of them are dropouts themselves, so school has no place in their lives. Many of the kids will say that their parents hated school and were no good at maths, so they believe it is their gene pool.

However, not only were the familial experiences seen to provide restrictive views of education that inhibit success in school mathematics; there was also the overt statement claiming a biological predisposition to learning mathematics. The final comment made by Peter in reference to the *gene pool* of the students also confirms a dominant view in education that students from socially disadvantaged backgrounds often have lower ability than students from more advantaged backgrounds. Many of the teachers passed comments about the poor or inferior abilities of these students, indicating their acceptance of the innateness of the concept and its potential to be part of the genetic makeup of students. When questioned further about the notion of ability, Sandra offered the following comments supporting a biological determinist viewpoint.

Sandra: It is often frustrating working with these kids in this school. No matter how hard I try, or how hard they try, they just don't seem to get it. They just don't have the ability needed to cope with maths. In one way it is not surprising because when you see their parents, they are not very bright—I mean, some of them have difficulty doing the reading with the kids, so I have to give them other things to do when they want to help out in class.

Sandra confirms the well-entrenched belief of natural abilities and their heredity among families. Notions of ability and intelligence have long permeated educational discourses, and their influence is very strong (Seldin 2000). Here it can be seen that these discourses have been incorporated into the teacher's habitus, and in turn provide a lens for her interpretation of why the students are not able to cope with the mathematics that she is teaching. Rather than seeing lack of success in mathematics as being something inherent in the structuring practices of schooling, it was seen as something innate in the student.

Peers, Role Models, and Significant Others

There are other members of the community who contribute to the success, or lack thereof, of students as they pass through school and mathematics. Teachers commented on the role of peers in the construction of attitudes and dispositions toward mathematics. These teachers had acknowledged the powerful influence of the peer group in their communities and that the counterschool and counter-achievement ethos within the groups facilitated a rejection of school mathematics. Comments of *nerds* and *stiffs* were passed about peers who attempted to engage with mathematics so that students who wanted to be accepted by their peer groups needed to reconcile their actions with the group. In the second comment below, Bob goes on to elaborate that the peer pressure in these communities was stronger than what he had observed in other nondisadvantaged schools.

Ross: Any kid who tries to work is called a "stiff," and it just pulls them down to the same level.

Bob: The kids here are fighting a losing battle. They have to be tough with their mates, and that means rejecting school. I try hard to tell them that is not the way it is, but they believe that school is for nerds, and maths is the worst subject of all to like because then you are a king-size nerd. You can't fight the peer pressure in schools like this—it is so strong.

The peer group was seen to be an important part of the students' lives, and where these, as suggested by Ross, "pulled students down," the peer group was described in pejorative terms. It was seen as a culture of mediocrity that hindered the students' progress through school. These types of comments reinforce the view that the social environment of the students was counterproductive to success in mathematics. While the power of the peer group is widely recognized within the literature on youth and schooling (Mac an Ghaill 1995), Bob's comment suggests that it is even more powerful among socially disadvantaged youth, thereby further limiting their potential for success.

While peers were seen to exert a powerful influence over the students, comments about the lack of human resources, such as role models, were also noted. As Kerry (below) comments, lack of role models or heroes or mentors within the communities was an endemic cause for the cycle of failure:

Kerry: One of the big differences in teaching these kids from middle-class kids is that they have no motivation in them. There is no future. What has the world got for me. They have no mentor, they have no hero, they have no role model, and all of this means that this concept of failure is never ending.

Implicit in Kerry's comment is the recognition that students do not have significant others to whom they can aspire. They are exposed to endless cycles of

poverty from which there is little hope of escape. Rather than place the blame on families, she looks more widely into the community and the structuring practices within those communities. This view was in contrast to many of the others where the teachers focused more specifically on parents and immediate families and recognized that the lack of interest and support from parents also served to act as a model for the students. These comments offered support for the general perception among the teachers that this cohort of students lacked the human resources to see successful members of their communities and, as such, could not relate to the notion of success in mathematics since it was an alien concept—something foreign to them—as there were no people within their communities with whom they could relate.

Resourcing and Technology

The notion of cultural capital was also implicit in comments teachers made in relation to computers. Implicitly, some teachers recognized that the experiences of the home are differentially recognized and rewarded within school. Focusing on computers and the interest that socially disadvantaged students had in them brought to the fore two issues—first was access to computers; the second related to the interrelationship between students and computers. Technology is being hailed as a tool for improving learning, yet little is really known about how this can be achieved and if it is differentially accessible. In terms of the types of interactions students had with computers, the teachers claimed that there was little difference in orientation toward computers—students were not scared of them. The two teachers' comments offered below illustrate the different understandings that teachers have of students' access to computers in the homes. In the first case, Marilyn proposes that all students have access, and it is a priority. However, Margaret questions the responses made by her students. Margaret's initial reaction confirms Marilyn's experiences but suggests that her students may see computers as being video games, and the like, rather than the technological tools that are being used in the classroom.

Marilyn: These kids are all exposed to video games so are not phased by computers. They have no fear of them—Can I handle it or not? The thing is, I have to stop them from pressing buttons. No, I don't think they are disadvantaged in that area, and it is amazing how you can ask kids who you think come from a poorer area, who has a computer, and it's amazing how many have. It seems to be a priority over so many other things.

However, a number of the teachers believed that the access to computers was not always as indicated and that often what was seen as "computer" by the students was not the "computer" valued within the school system but rather a game device:

Margaret: They enjoy playing with computers. When I asked who had computers, they nearly all put their hands up. But then I realized they thought Segas were computers. That is what they call a computer. They do like the games. It does turn them on, and if you look at these Time Zone places [*arcade game alleys*] they are full of kids from these poorer areas. They spend all their money there because there is big excitement.

The discrepancy between these two experiences suggests that the responses offered by students should not be taken at face value. Again, this suggests that what teachers see as legitimate forms of knowledge (in this case, computers) may be different from what the students see as computers (in this case, interactive games).

Margaret suggests that experiences with computer games are not as valued in school as more formal computer skills. However, she also comments further on the dispositions the students have toward the "excitement" offered by these games. As both teachers' comments indicate, the focus was on playing games; hence, their experiences were not positioning them well for the practices that they would encounter within the classroom context. Hence, students came to school with very different expectations of what a computer was, and while they responded that they had access to them, their experiences were not those legitimated through the curriculum.

Again, there is some indication in the comments offered by Margaret insofar as her assumptions about the values of socially disadvantaged students where she states that the students spend "all of their money" in arcade game alleys. Spending time in arcade game alleys is not a middle-class value and, from this viewpoint, is not seen to cultivate the valued dispositions needed for success in school. Explicit recognition of the bias in the school curriculum vis-à-vis socially legitimate knowledge and experiences did not appear in the comments offered by the teachers.

In terms of access to other forms of technology, such as calculators, teachers commented that the students either did not have them or, when they did, they would damage them so that they were unusable.

Melanie: We have class sets of calculators, but they are always going missing. The kids take them. Sometimes we find them in the school yard, but most of the time, they just take them, so we never have a full class set. I don't know why they do it, as they would never use them at home. It is just like they have to take stuff because they don't have it.

Robert: We tried to get class sets of graphics calculators, but the kids would just wreck them. They'd pull the buttons off or smash the displays so that they were wrecked. They nick [*steal*] the batteries so you never can use the ones that you have for the class anyway. This is really frustrating, as they have no respect for other people's property. You might start the year off with a full set, but by the end of the year, you are lucky if a quarter of them are left or usable.

The implicit acknowledgment of the dispositions of the students toward resources—in this case, calculators—suggests the teachers' recognition of a value

system of the students that was incongruent with those of the teachers. The comments offered here indicate the frustration of both primary and secondary teachers with the use of calculators within the classroom. Both comments indicate that they have difficulties with the students' [*ab*]use of school property. In subtle ways, they also suggest that the students have a lack of respect for property that is not theirs. The blame for the abuse of the school equipment is seen to be a characteristic of the students.

Lower Standards for Students

The habitus of the teachers, as represented through their comments, indicates that they are disposed toward believing that the backgrounds of the students impact negatively on their capacity to learn. Many of the teachers suggested that the experiences of the students positioned them in ways inferior to the curriculum and assessment that they would encounter in the mathematics classroom. This meant that they were seen to be struggling with the substantive content being covered, and as such, expectations lowered for them. Many of the teachers passed open comments that they had to have lower standards for these students.

Mitch: The kids have a lot of trouble understanding what is expected of them and what they have to do. Because they don't know very much and are often off-task, I find that I have to lower my expectations of what I can get them to do. When I first started here, I thought I would be able to get them to do the same work, but they were just too slow, so I had to make things go at a very different pace.

Julie: I would say that the big problem with maths is accepting a lower standard. Basing it on my observations, they are achieving at a lot lower standard. I can't pinpoint it exactly—the inability to work cooperatively, the inability to sit and listen for any length of time, you know for longer than five minutes. Their inability to stay on task. Their inability to share resources when doing hands-on work.

Both Mitch and Julie state that they have lower expectations of these students in mathematics. In part, this is because they believe that the students have inferior experiences and cannot cope with the work being asked of them. Julie goes on to add that other social skills militate toward having lower expectations since they are unable to work effectively. In the comments offered by teachers, there was a dominant view that teachers had to lower their expectations for these students since they were unable to cope with the work. The lowered expectations can be seen to be incongruent with the outcomes of the Askew et al. (1997) study where one of the key indicators of an effective teacher of numeracy was the belief that all students could be successful. Comments such as these indicate that teachers felt that they needed to have lower expectations of their students.

Behavior Problems

Many of the teachers' comments to date have indicated their concerns about behavior management in these schools and classes. In nearly all of the comments offered, teachers commented that the classes tended to be a lot noisier and on task less often. Behavior management was seen to be a big issue when working with the students. The students were seen to be the root of the problem in that they did not have the same (expected) control on their behavior.

Helen: I have worked in these schools a number of times, and it is always the same. They don't know how to behave, they want to try and get your attention, you know, no social skills. You seem to spend most of the lesson on managing their behavior rather than teaching them anything.

Bruce: There are more suspensions here than my last schools. I think the kids don't want to be here, so they misbehave. They want to get you upset so you spend your maths lesson trying to teach them manners and courtesy but no maths.

Behavior management was a recurring theme in what teachers felt were issues that prevented them from achieving what they intended. From the comments here, Helen indicates a common theme in the responses where she says that the students "don't know how to behave," suggesting that there is an appropriate way to behave. The comment is located within a deficit view of the students in that they lack the social knowledge for what is seen to be appropriate behavior. In contrast, Bruce recognizes a social dimension to behavior and describes the misbehavior in terms of resistance rather than deficit but with the net effect that the behavior detracts from the potential to cover set curriculum. When asked what they could ask for to help them work more productively with the students, one teacher suggested the following:

Ross: If I could have something to change the outcomes for these kids it would be to have a big policeman at the door that [*sic*] could discipline the kids instantly and put them back into the classroom. That way behavior management would be taken care of instantly. At the moment if I want to discipline a child, it's to the office.

From Ross's comment, the notion of behavior management in this form arises from his earlier comments that the students were "here and now" students, by which he meant that his students were in need of immediate feedback—hence, his comment about the immediacy of discipline from a "big policeman." It potentially raises a further concern that teachers were feeling overwhelmed by what they saw as the problem—that they were required to undertake disciplinary measures rather than teach (as in Bruce's comment above).

SEEING THE ISSUE FROM A DIFFERENT STANDPOINT

At the beginning of this chapter, I noted that the comments offered by many of the teachers were of recurring themes. These tended to place the root of the problem with the students and the families. However, there was one dissenting voice, and it is to this voice I now turn. Kerry's comments throughout the interviews indicated a very different way of seeing the issues in her school. Her comments indicated an engagement with theories of social and cultural reproduction. Rather than see the students and the families as the root of underachievement, she was more critical of the practices within schools and the wider society. In the preamble to the quote cited below, Kerry had been commenting on the teachers who can successfully work with the students, who have significant success in relating to and raising the levels of achievement for their students. Her views were markedly different from the other teachers in this study. In these comments, she notes there are few behavior problems in the classes; the students are engaged and keen to be in the classes. What she saw as the fundamental issue for schools to address when working with students from socially disadvantaged backgrounds was respect:

Kerry: It's another that I would identify—respect. They [*the disadvantaged kids*] need to be respected, and they are not getting it.

From many of the comments that the teachers passed about the students, it could be asked whether there was a deep understanding of issues of curriculum relevance or challenge for the students. Kerry raised her concerns about the lack of understanding among many teachers of the strengths that the students bring to schools and their dismissal of many of these attributes. Indeed, the comment of respect raises an important consideration: Do teachers respect the home cultures and their manifestations in the classroom, or are these cultures denied legitimacy?

In contrast to the other comments offered by teachers, Kerry demonstrated an understanding of the reproductive mechanisms of schooling not articulated by the other teachers. She voiced concerns of how systemically the students are excluded from the school and how parents' cultural capital (or lack of it) prevents them from actively challenging the processes of exclusion and how the system relies on this in order to reproduce the status quo:

Kerry: I think that there is such a smorgasbord in schools these days that something has to go. And, cruel as it may seem, people from low SES [*socioeconomic*] backgrounds are the least likely to make waves if they are the ones to go. That's nasty I know, but in this world of economic rationalism, that is what is happening. Like if your child or mine was failing, we would be on the phone, but these parents don't have the knowledge about phoning up. They are powerless.

Unlike other teachers who spoke of restricted resources and other negative aspects of teaching in these environments, Kerry expressed a greater awareness of the needs of the students. She identified that these needs were not related to psychological models of basic needs but more social, that is, needs of identity. She spoke of how she enacted practices within the classroom to support the students' sense of identity. That she lived out basic ideals of respect and trust are evident in the practice she described below and in marked contrast to the earlier comments regarding the use of calculators in schools.

Kerry: I lend the kids the calculators. They have them for a year and then give them back. I never have any problems getting them back. The thing is, if you like these kids and they know that you are helping them and not in a condescending manner, they respect that and they live up to your expectations. With these kids, I don't ask questions about who needs to use my calculators; I just leave them because they are in Grade 11. Saving face is important.

Her description of the way she sees the world is very different from the practices described by many of the other teachers. Two key points can be identified. First is her notion of expectations and how this applies to technology (calculators). In her comments on expectations, there is a strong sense of reciprocity—she has high expectations of the students, and they live up to her expectations because of her respect for them. Not only is respect evident in her comment but a deep understanding of the students—she does not ask questions about needs; she just leaves the calculators so that there is no shame in needing one. Unlike the earlier comments from teachers who had lower expectations of the students and suggested that the students had little respect for school property, Kerry's experiences are somewhat different. Unlike the other teachers in this study who were critical of the students' lack of respect for school equipment, Kerry's experience suggests that the students respected the calculators and did not damage them, and she had full return rates for calculators borrowed.

CONCLUSION

In conclusion, the comments offered by the teachers highlight the discourses they use when talking about the students with whom they work. Most of the comments offered by the teachers drew heavily on conservative models for understanding pedagogy and curriculum in mathematics. There was a heavy emphasis on deficit models and a pathologizing of students and families. The views expressed by many of the teachers suggest that they have particular views on how they see the background of students impacting on and influencing learning and teaching mathematics. The constructions that these teachers have of students learning mathematics raise questions as to how entrenched are such views and the impact that such views may have on the success of students from socially disadvantaged backgrounds. In light of earlier research on the influence

that teachers' beliefs have on the construction of success, concerns need to be raised as to whether some teachers may be creating environments that hinder the potential for success for many students. This is not to say that it is a conscious decision but rather one that remains at the level of ideology and hence not rendered available to critique.

Earlier research on teachers' beliefs has suggested the powerful influence such beliefs have on how learning is organized and assessed. In the responses offered by the teachers in this research, there is a potentiality for their practices to be framed by their beliefs and thereby hinder the mathematics learning for their students. Indeed, as many explicitly noted, their expectations of these students were lowered, thus exposing students to a restricted curriculum. Thus, it becomes important for educators to consider the beliefs that are held about learners and the impact this potentially has for learning and learning outcomes.

The views expressed by the teachers in this cohort have serious implications for preservice education and professional development of teachers. Where beliefs of teachers reflect an ideology of deficit and biological determinism, as evident in the comments posed by most of the teachers in this study, there are serious implications for students from socially disadvantaged backgrounds. As the studies cited early in this chapter indicate, teachers' beliefs impact significantly on the outcomes for students. In terms of equity and social justice, teachers who hold beliefs of students from socially disadvantaged backgrounds based in deficit models may engender practices that reinforce the status quo and therefore are at risk of ensuring that the students are locked into practices of social reproduction. For example, in considering the dominant belief of the teachers in this study that students were in some way deficient, the literature on beliefs would suggest that practices are then implemented that reflect this belief. As such, practice potentially engenders the reification of disadvantage. If teachers hold beliefs within a deficit framework, then it may not be unreasonable to expect that such beliefs filter through to practice. Indeed, this was evident in some of the comments offered by the teachers here in terms of their lower expectations of the students. Indeed, if teachers have lower expectations, then it is highly likely that curriculum will be offered that is somewhat inferior to other less-disadvantaged cohorts of students. In so doing, social differences become educational differences.

In closing, the one teacher (Kerry) who had a more systemic view of educational success and failure in school mathematics raised an important consideration that moved blame away from the students and their families. She raised questions as to whether teachers understood the differences in the cultures that students bring with them to school and whether such differences are respected at a level that allows a sense of justice for all students to pervade the classrooms. Her comments and experiences were often the antithesis of those offered by the other teachers, yet her school is one of the most disadvantaged in the region. Her habitus provided a different lens for seeing and interacting with her students, and thus her experiences were quite different from those described by the other

teachers. Perhaps there is a greater role in teacher education—preservice and in-service—to raise ideological critiques in order to challenge beliefs about learners, their backgrounds, and the impact of the same on success in mathematics. As the comments posed by the majority of teachers in this study suggest, there is a dominance of views that focus attention on students and families as being deficient in ways that hinder success. In contrast, the one dissenting voice identified ways in which schooling and curriculum also have a considerable role to play in how success in mathematics evolves and how, as a consequence of their backgrounds, some students will have greater or less chance of being successful within that system.

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